1. A method of generating coefficients for use in an adaptive equalizer, the method comprising:

generating first coefficients for use by the adaptive equalizer to reduce pre-cursor intersymbol interference in an input signal; and

generating second coefficients for use by the adaptive equalizer to whiten noise in the input signal.

2. The method of claim 1, wherein the first and second coefficients are used, respectively, in first and second sets of taps in a finite impulse response feedforward filter.

3. The method of claim 2, wherein the first coefficients are generated based on the input signal and noise.

4. The method of claim 2, wherein the second coefficients are generated based on an estimate of the noise.

5. The method of claim 3, wherein the noise is estimated by subtracting a substantial replica of the input signal from a delayed version of the input signal and noise.

6. The method of claim 1, wherein the first coefficients, b_K^i, are generated as follows:

$$b_k^i = b_{k-1}^i + \beta_1 \cdot E_k \cdot R_{k-i}, \text{ for } i=1 \text{ to } M,$$

where i is an index of taps in a feedforward filter in the adaptive equalizer, β_1 is a step size of the feedforward filter, E_k is an error signal generated by the adaptive equalizer, R_{k-i} is the combined input signal and noise fed to the adaptive equalizer, and M is a number of taps in the feedforward filter between a first tap and a main tap.

7. The method of claim 1, wherein the second coefficients, b_K^i, are generated as follows:

$$b_k^i = b_{k-1}^i + \beta_2 \cdot E_{k-L} \cdot V_{k-i-L}, \text{ for } i=M+1 \text{ to } N_{fff},$$

where i is an index of taps in a feedforward filter in the adaptive equalizer, β_2 is a step size of the feedforward filter, E_{k-L} is a delayed error signal generated by the adaptive equalizer, V_{k-i-L} is an estimate of noise fed to the adaptive equalizer, M is a number of taps in the feedforward

filter between a first tap and a main tap, and N_{fff} is a total number of taps in the feedforward filter.

8. An article comprising a machine-readable medium that stores instructions for generating coefficients for use in an adaptive equalizer, the instructions causing a machine to:

generate first coefficients for use by the adaptive equalizer to reduce pre-cursor intersymbol interference in an input signal; and

generate second coefficients for use by the adaptive equalizer to whiten noise in the input signal.

9. The article of claim 8, wherein the first and second coefficients are used, respectively, in first and second sets of taps in a finite impulse response feedforward filter.

10. The article of claim 9, wherein the first coefficients are generated based on the input signal and noise and the second coefficients are generated based on an estimate of the noise.

11. The article of claim 10, wherein the noise is estimated by subtracting a substantial replica of the input signal from a delayed version of the input signal and noise.

12. The article of claim 8, wherein the first coefficients, b_K^i, are generated as follows:

$$b_k^i = b_{k-1}^i + \beta_1 \cdot E_k \cdot R_{k-i}, \text{ for } i=1 \text{ to } M,$$

where i is an index of taps in a feedforward filter in the adaptive equalizer, β_1 is a step size of the feedforward filter, E_k is an error signal generated by the adaptive equalizer, R_{k-i} is the combined input signal and noise fed to the adaptive equalizer, and M is a number of taps in the feedforward filter between a first tap and a main tap.

13. The article of claim 8, wherein the second coefficients, b_K^i, are generated as follows:

$$b_k^i = b_{k-1}^i + \beta_2 \cdot E_{k-L} \cdot V_{k-i-L}, \text{ for } i=M+1 \text{ to } N_{fff},$$

where i is an index of taps in a feedforward filter in the adaptive equalizer, β_2 is a step size of the feedforward

filter, E_{k-L} is a delayed error signal generated by the adaptive equalizer, V_{k-i-L} is an estimate of noise fed to the adaptive equalizer, M is a number of taps in the feedforward filter between a first tap and a main tap, and N_{fff} is a total number of taps in the feedforward filter.

14. An adaptive equalizer comprising circuitry which:

generates first coefficients for use by the adaptive equalizer to reduce pre-cursor intersymbol interference in an input signal; and

generates second coefficients for use by the adaptive equalizer to whiten noise in the input signal.

15. The adaptive equalizer of claim 14, wherein the first and second coefficients are used, respectively, in first and second sets of taps in a finite impulse response feedforward filter.

16. The adaptive equalizer of claim 15, wherein the first coefficients are generated based on the input signal and noise and the second coefficients are generated based on an estimate of the noise.

17. The adaptive equalizer of claim 16, wherein the noise is estimated by subtracting a substantial replica of the input signal from a delayed version of the input signal and noise.

18. The adaptive equalizer of claim 14, wherein the first coefficients, b_K^i, are generated as follows:

$$b_k^i = b_{k-1}^i + \beta_1 \cdot E_k \cdot R_{k-i}, \text{ for } i=1 \text{ to } M,$$

where i is an index of taps in a feedforward filter in the adaptive equalizer, β_1 is a step size of the feedforward filter, E_k is an error signal generated by the adaptive equalizer, R_{k-i} is the combined input signal and noise fed to the adaptive equalizer, and M is a number of taps in the feedforward filter between a first tap and a main tap.

19. The adaptive equalizer of claim 14, wherein the second coefficients, b_K^i, are generated as follows:

$$b_k^i = b_{k-1}^i + \beta_2 \cdot E_{k-L} \cdot V_{k-i-L}, \text{ for } i=M+1 \text{ to } N_{fff},$$

where i is an index of taps in a feedforward filter in the adaptive equalizer, β_2 is a step size of the feedforward filter, E_{k-L} is a delayed error signal generated by the adaptive equalizer, V_{k-i-L} is an estimate of noise fed to the adaptive equalizer, M is a number of taps in the feedforward filter between a first tap and a main tap, and N_{fff} is a total number of taps in the feedforward filter.

20. The adaptive equalizer of claim 14, wherein the circuitry comprises a memory that stores machine-executable instructions and a processor that executes the instructions to generate the first and second coefficients.

21. The adaptive equalizer of claim 14, wherein the circuitry comprises discrete hardware components that are configured to generate the first and second coefficients.

22. The adaptive equalizer of claim 14, wherein the discrete hardware components include logic gates.

23. An adaptive equalizer which processes an input signal that includes noise, pre-cursor intersymbol

interference, and post-cursor intersymbol interference, the adaptive equalizer comprising:

a feedforward filter which reduces the pre-cursor intersymbol interference and whitens the noise;

a feedback filter which obtains the post-cursor intersymbol interference in a signal that corresponds to the input signal; and

circuitry which removes the post-cursor intersymbol interference from the input signal;

wherein the feedforward filter includes separate first and second coefficients, the first coefficients to reduce the pre-cursor intersymbol interference and the second coefficients to whiten the noise.

24. The adaptive equalizer of claim 23, wherein the first and second coefficients are used, respectively, in first and second sets of taps of the feedforward filter.

25. The adaptive equalizer of claim 24, wherein the feedforward filter generates the first coefficients based on the input signal and the noise and generates the second coefficients based on an estimate of the noise.

26. The adaptive equalizer of claim 25, further comprising circuitry which estimates the noise by subtracting a substantial replica of the input signal from a delayed version of the input signal.

27. The adaptive equalizer of claim 23, wherein the first coefficients, b_K^i, are generated as follows:

$$b_k^i = b_{k-1}^i + \beta_1 \cdot E_k \cdot R_{k-i}, \text{ for } i=1 \text{ to } M,$$

where i is an index of taps in the feedforward filter, β_1 is a step size of the feedforward filter, E_k is an error signal generated by the adaptive equalizer, R_{k-i} is the input signal including the noise, and M is a number of taps in the feedforward filter between a first tap and a main tap.

28. The adaptive equalizer of claim 23, wherein the second coefficients, b_K^i, are generated as follows:

$$b_k^i = b_{k-1}^i + \beta_2 \cdot E_{k-L} \cdot V_{k-i-L}, \text{ for } i=M+1 \text{ to } N_{fff},$$

where i is an index of taps in the feedforward filter, β_2 is a step size of the feedforward filter, E_{k-L} is a delayed error

signal generated by the adaptive equalizer, V_{k-i-L} is an estimate of the noise, M is a number of taps in the feedforward filter between a first tap and a main tap, and N_{fff} is a total number of taps in the feedforward filter.

29. The adaptive equalizer of claim 23, wherein the adaptive equalizer comprises a single pair high speed digital subscriber line equalizer.